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ABSTRACT

The emergence of multimedia software in the classroom challenges the traditional use of single media as the medium for student communication. Educators need to know how to use this new technology as an effective tool in their students' learning. The purpose of this study was to observe how 18 students in a fourth grade class manipulate a multimedia software, MicroWorlds, to express themselves differently than they do with the traditional paper and pencil process. Students had computer lab once a week for an hour. Two student surveys were used to collect insight on students' idea development and individual expression in writing their autobiographies in the different mediums. Questions focused on how much time was spent writing, perceptions of the assignments, and the peer collaboration that occurred. A daily journal was kept on the events that took place within the classroom during the project. All eighteen students used graphics, seven used animation, and eleven used sound to enhance ideas. Many students developed new ideas using these tools. More active peer collaboration occurred in the lab than in the classroom. Findings suggest that students use multimedia tools to enhance idea development and individual expression by adding greater description, unique perspectives, and revealing diversity in their backgrounds, interests, and skills. In a single media format such description, insight, and individuality is difficult for students to convey. Three appendices contain the single media and multimedia student surveys, and a possible unit outline for integrating MicroWorlds into the curriculum. (Contains 13 references.) (Author/MAS)

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Running Head: COMMUNICATION THROUGH MULTIMEDIA

Communication Through Multimedia in an Elementary Classroom

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Abstract

The emergence of multimedia software in the classroom challenges the traditional use of single media as the medium for student communication. Educators need to know how to use this new technology as an effective tool in their students' learning. The purpose of this study was to observe how students express themselves differently using MicroWorlds, a multimedia software. The findings suggest that students use multimedia tools to enhance idea development and individual expression by adding greater description, unique perspectives, and revealing diversity in their backgrounds, interests, and skills. In a single media format such description, insight, and individuality is difficult for students to convey.

Chapter I

The Problem

A. Need for Study

One of the most powerful and inescapable influences in our society is the domineering force of the media. Media bombards people in the form of television, radio, videos, magazines, billboards, and newspapers. Through media, ideas are expressed, opinions formed, lifestyles verified, and decisions condemned. The growth of mass media has drastically changed the dynamics of the world. Society has become accustomed to the steady flow of information. Media, properly used in the classroom, can provide incredible opportunities for students and teachers to obtain information as well as express themselves.

In a changing world, it seems irresponsible of educators to remain loyal to traditional and conventional strategies because they are familiar. The presence of computers in classrooms can be viewed as revolutionary in terms of comparing them to classrooms without them. However, the infusion of computers in schools needs to be viewed as an evolution in the classroom rather than a revolution. It must be viewed as an on-going process rather than a one time event

(Dyrli and Kinneman,1994). Through the use of computers, educators can effectively utilize the widespread influence of media in the classroom as a source of education rather than just entertainment.

Computer software that combines multiple types of media is considered multimedia software. Multimedia refers to the integration of text, graphics, animation, sound, video, and music, all under the computer's control (Turner, 1992). Multimedia software is a relatively new concept in software. It demands active participation and provides the opportunity for users to manipulate and express themselves through graphics, animation, sound, video, and music. Because students of all ages are so familiar with media, multimedia software may be able to inspire motivation and access creative thoughts that paper and pencil can not.

Teachers need to be educated about the use of multimedia in the classroom as a learning tool. They must be prepared to make educated decisions about the learning tools that new techniques provide. In order to access student knowledge, teachers and students need to be exposed to a variety of strategies. Multimedia software equips teachers and students with aural, visual, and textual strategies for communicating knowledge. Therefore, multimedia software merits more attention in the classroom.

B. Purpose of Study

The purpose of this study is to observe how a fourth grade class manipulates a multimedia software to express themselves differently than they do with the traditional paper and pencil process. By introducing a multimedia software, MicroWorlds, students will be able to express themselves in a much more elaborate way. Through comparing student attitudes, behaviors, and quality of work, I plan to reveal some significant reasons why teachers should use multimedia software as an advantageous medium for student communication.

C. Hypothesis

Students' writing will be enhanced through use of MicroWorlds, a multimedia software program. Use of this software in this way will enhance idea development and facilitate individual expression. Through the review of literature, implementation of multimedia software in a classroom, observation of attitudes and behaviors, and comparison of multimedia and single media work, I plan to offer insight into the value of using multimedia software as a tool for teaching.

Chapter II
Review Of Literature

> "Now, five hundred years after Gutenberg, fifty years into the television age, and forty years after the introduction of the computer, we finally have- in one tool- the intellectual content of print, the images of video, the sensory impact of sound, and the speed of electronics." - David Z. Shefrin, President of Interactive Video Industry Association (Scarbeau, 1993, p.4)

This "one tool" that David Z. Shefrin describes is called multimedia. Each individual invention that comprises multimedia has had an everlasting impact on the world. Now with the powerful influence of each invention, multimedia will change the dynamics of the world in which we live, especially in education. The multisensory experience that multimedia offers allows education to be an adventure that necessitates student participation. The advent of multimedia software has provided new avenues for student expression and communication beyond what has ever been possible when using single media formats.

Multimedia software integrates text, graphics, animation, sound, and video. It offers a medium to collect, store, manipulate images, sounds, and text on a computer as part of the knowledge acquisition process (Daiute and Morse, 1994; Gray, 1991). Furthermore, multimedia software solicits active participation from its user. Users browse, explore, make notes, add new information, create new things, and choose what to see and hear. The interactive and multisensory qualities of multimedia software enable students to express themselves and their worlds differently than they do with traditional learning materials. Expression and communication is facilitated visually or aurally with multimedia software, often giving students "real" experiences (Trotter, 1993; Turner, 1992). Multimedia software facilitates these natural learning strategies of seeing, hearing, and doing, through its variety of tools which provide rich information: pictures, written text, sound, animation, and video (Gates, 1993). Furthermore, children, accustomed to watching television, listening to music, and playing computer games, perceive a multimedia medium more compelling and motivating than the conventional "chalk and talk" (Turner, 1992).

Meeting Diverse Learning Needs

Multimedia software advocates new strategies for students to use in the process of learning. Traditionally teachers have relied on written communication to evaluate student learning. According to John Bransford of the Learning Technology Center at Peabody College of Vanderbilt, "[with multimedia] we may have the opportunity to break [this] mold" (Behrmann, 1991, p.1). Multimedia breaks this mold by infusing a variety of strategies used for communication and expression that reach beyond the written confines of text. These strategies support a diverse range of learning styles that text alone cannot.

Diverse learning styles need to be carefully considered when educating students. According to Brenda Litchfield(1993), learning styles can be defined as "various methods individuals have for perceiving and processing information while reacting to their environment"(p.3). Teachers are challenged to meet the needs of their students' diverse learning styles and multimedia software is an invaluable tool in accomplishing this great task. Multimedia offers successful strategies for students having difficulties reading and writing to communicate (Turner, 1992; Wilson, 1992). An important factor in becoming an effective reader and writer, is the ability to use background knowledge of

facts, conceptual frameworks, and goals (Daiute and Morse, 1994). The use of text can isolate a students who are weak readers and writers. Use of text alone inhibits these students from utilizing the background knowledge they have received from nontextual sources such as real life experiences, speech, television, and art. With multimedia software these nontextual sources can be accessed by students and used to express themselves. This expression for students with language processing difficulties is communicated through the manipulation of graphics, animation, sound, and video(Daiute and Mores, 1994; Prickett, 1992).

Although the development of reading and writing greatly relies on cognitive and linguistic factors, cultural and social factors can have great impact on language processing. The nontextual tools of multimedia enable students to incorporate their own cultural, social, or personal relevance in their work. This integration of individual expression empowers and motivates students beyond the confines of written words. When students have the opportunity to write about their own experiences, written production, elaboration of ideas and attempts to express personal and varied points of view are all likely to increase. Graphics, animation, sound, and video help facilitate the expression of emotion, increase memories of past experiences, and elicits more description of social

arrangements and peer or family culture. These types of experiences are often difficult to convey with text alone (Daiute and Mores, 1994). Published texts often do not represent the symbols of minority and peer culture that are easily accessible with multimedia software. When students create their own relevant symbols, they are diversifying themselves by background, interest, and/or skill (Daiute and Morse, p. 252).

The nontextual tools of expression in multimedia software can also serve as a reference point, a catalyst, or a context for integration and reflection. They provide sources of information for thinking, processing, and reflecting on what they see and hear (Daiute and Morse, 1994). Varied learning styles are not isolated by multimedia. Therefore, by using multimedia, students can access and express their knowledge which will help teachers assess their students' knowledge more accurately.

Improving Cognitive Development

Along with supporting a diverse range of learning styles, multimedia tools can help improve cognitive processing. According to John Sculley (1993), "Intellectual development is an active, inquiring dialogue with the world, a personal journey of curiosity and discovery" (p.38). The opportunity to

manipulate images, sounds, and text by cutting, pasting, cropping, drawing, altering, reconstructing, and examining supports this intellectual development. The active and prolonged engagement that multimedia software necessitates is essential for long term learning. Long term memory is enhanced with multisensory materials of multimedia. In Brian Scarbeau's research (1993), he states that "learners can retain about twenty percent of what they hear and see, and about seventy-five percent of what they hear and do" (p.4). Schools that rely on multisensory experiences for learning are the schools where the most learning occurs (Gates,1993).

Furthermore, when students can organize content in a meaningful structure as is possible with multimedia software, knowledge becomes more accessible to them. However, this organizational process provides a cognitive challenge to the student while maintaining an appropriate level of information. (Turner,1992; Wilson,1992)

Motivating Students

One of the greatest attributes of multimedia software, beyond offering a variety of communication tools, is its motivational element for students. Although students seem to be inherently motivated by computers, the tremendous connection that multimedia software creates between

students' academic world and social world is a factor in their motivation (Litchfield, 1993). Children who enjoy television, music, and computer games find multimedia software more enthralling and motivating than traditional medias. Multimedia software provides a sense of excitement in the classroom because it presents learning as an exciting adventure instead of a dreaded chore (Gates, 1991; Prickett, 1992; Turner,1992).

It is concluded from information gained in the literature review that multimedia addresses a variety of learning styles, helps improve cognitive processing, and motivates students in their education. The impact multimedia software can have in education alone is phenomenal. Offering students opportunities to succeed is the obligation of educators. Multimedia provides students with new opportunities for communication that are not possible with traditional, single media formats. If the Chinese Proverb, "I hear, and I forget. I see, and I remember. I do, and I understand" holds truth, multimedia software may be the tool that leads to success for many students.

Chapter III

Design of the Study

Sample

Eighteen fourth grade students at a public school in Charlottesville, Virginia participated in this study. The group consisted of nine boys, nine girls, and nine of them minorities. The students had computer lab once a week for an hour. They had experience publishing with word processing software. Students did not have individual disks to save work on. Therefore all computer projects did not exceed one lab session. All students were familiar with ClarisWorks Word Processing and KidPix. Only three students were familiar with MicroWorlds, the multimedia software used in this study.

Measures

I used two student surveys to collect insight on students' idea development and individual expression in writing their autobiographies in the different mediums. The questions focused on how much time was spent writing, perceptions of the assignments, and the peer collaboration that occurred. The first survey, "With Single Media"(Appendix A), asked students

- how much time did you spend writing your autobiography?
- what did you find the hardest thing about the assignment?
- how many drafts did you write?
- did you ask your peers for help? what kind?
- are you proud of your work? why?

Students answered the second survey, "With Multimedia", after they finished their autobiographies with MicroWorlds. The answers were designed to be comparable to those of "With Single Media". This survey asked students,

- how did you change your autobiography with MicroWorlds
- how did you like this writing assignment using MicroWorlds?
- did you ask your classmates for help? what kind?
- would you have liked more time to work on your project?
- are you proud of your work?

I also compared students' written work to their finished project, in terms of added revision and the number of multimedia tools used. The purpose was to gather comparison data on students' idea development and individual expression in the two medias. A daily journal was also kept on the events

that took place in the classroom each day of the project. I recorded student behaviors and attitudes on the occasion of each visit. The content of journals and surveys were analyzed according to themes revealed in my research.

Design

In the first phase of this study students were engaged in a newsletter activity designed to acquaint them with the process of manipulating text and graphics when publishing. Students designed a layout for their newsletter to include articles on what they were learning in each subject, poetry by classmates, and two class pictures. After students wrote their articles they changed fonts and text styles to fit within the layout. This activity gave students experience with the tools for manipulating text and graphics that they would use in their MicroWorlds project.

I chose MicroWorlds as the multimedia software to use in this study because of its' learner-centered characteristics. There are three types of multimedia software: software that publishers develop for schools, software that teachers develop for other teachers, and software that students develop for themselves which defines MicroWorlds. The benefit of implementing learner-centered software, like MicroWorlds, is that students have the ability to develop materials that are

meaningful and useful to them. With this software students become empowered to communicate their ideas according to their individual needs.

MicroWorlds combines programming aspects of three different applications: Logo, KidPix, and HyperCard. The use of the turtle in MicroWorlds depends on the programming language of Logo. Students manipulate this programming language to create valid and pertinent materials. The KidPix aspect of MicroWorlds offers students a large variety of paint and draw tools, including numerous icons that they can utilize in expressing themselves. Finally, MicroWorlds' hypermedia dimension allows students to organize their ideas through linking them together in a structure that they find meaningful.

Students wrote their autobiographies in their regular classroom in four steps: birth, early years, school years, and future years. The students' teacher modeled the assignment by writing her own autobiography, reading it aloud, and giving each student a copy. Students were given five thirty minute class periods to write their autobiographies. Due to time constraints and scheduling conflicts with the computer lab, Students' autobiographies were typed into ClarisWorks documents for them.

Students were divided into two groups of nine to work in the computer lab. Twice a week students worked on their

MicroWorlds project for thirty minute time periods for a total of ten periods. Students were introduced to MicroWorlds by learning how to "teach the turtle". By using the turtle's vocabulary, students manipulated the turtle in giving it commands to travel across the screen, create designs, and link to other pages. Students learned how to make text boxes and use the paint and draw tools of MicroWorlds while creating their own title pages for their projects. They created pages for their autobiographies, cut text from ClarisWorks documents and pasted them into MicroWorlds pages, and manipulated the size and font of text to fit in the desired text boxes. The procedures to use the multimedia tools: graphics, animation, and sound were taught to the students as options to enhance the already existing text or express new ideas. Because students were unfamiliar with these tools, a great deal time was spent teaching the procedures.

Over the course of six weeks, students explored the multimedia tools of MicroWorlds and chose which ones to incorporate into their projects. This experience introduced them to multimedia software and a variety of possibilities for communication.

Chapter IV

Results

Two surveys were distributed to the students in order to collect insight on students' idea development and individual expression in writing their autobiographies in the different mediums. One survey was distributed at the beginning of this study. The first survey, entitled "With Single Media", was completed by sixteen of the eighteen students. The second survey, entitled "With Multimedia" was given to students at the completion of their projects. It was completed by fifteen of the eighteen students.

Students were given a limited amount of time to work on their projects, and within these time constraints, all of them enhanced their original text with multimedia tools. Only five students said they wrote more than one draft of their autobiography. All eighteen students used graphics, seven used animation, and eleven used sound to express ideas. The use of these tools expanded their ideas by allowing them to communicate through different methods than text alone. For example, Josh, a minority student, brought a picture of his sister to scan into his "early years" page. Because she is a different race, this visual representation provided more

description than Josh ever could have expressed in written words.

Six students, on the "With Multimedia" survey, answered that they changed their autobiographies in MicroWorlds by "add[ing] description" or "mak[ing] it longer". Nine students responded that they changed it by adding pictures, sound, and/or animation to their autobiographies. With these changes, many students shifted from general, non-descript ideas to more specific, detailed, unique expression of these same ideas. Jeremyiah's text said that in the future he wanted to create things that mankind has never known. He developed this general idea further with graphics, revealing he wanted to have a science lab in the desert. Although many students created graphics to represent hospitals and schools, they also chose different graphics which demonstrated different perspectives not easily detected from reading text alone.

Many students, using multimedia tools, developed new ideas along with enhancing old ones. Five students added new ideas through the revision of text, five through graphics and one student used both. A common theme in many of the autobiographies emulated the following structure: "In first grade my teacher was... In second grade my teacher was... In third grade my teacher was...In fourth grade my teacher was...". As students worked on their projects, more description

evolved. For example, in my journal I recorded, "Elaine's original text was very nondescript about her school years. She is now, however, adding new text about her dog. It is not just a 'dog'. It is a brown dog and she is determined to make her graphics realistic".

On the "With Single Media" survey , eleven students stated that the hardest part of the assignment was thinking of ideas. However, with MicroWorlds students asked me questions on "how to do something" rather than "what to do". In a journal I reflected on how students approach to this assignment was changing. "I realized today that the only questions students ask me are on how to do a procedure. They ask for the mechanics not the ideas. No one has said to me 'what should I do'."

Apathy or reluctance was never demonstrated in the computer lab. "'What are we going to do today?' was the first thing that was said to me when I walked in their classroom." Three students on "With Multimedia" said that they liked their MicroWorlds project because it was fun and Sarah exclaims how much fun the project is in her voice recording. The only reluctance that I ever experienced was at the end of our computer sessions. "Jeremyiah is known to be a discipline problem due to his abundant energy which is apparent in our short walks from the classroom to the lab. The only time I

have any difficulty with him is at the end of class. Getting him off the computer is like a game of tug of war."

When asked if they liked using MicroWorlds, all students said yes. Eight students like MicroWorlds because they could "do more things", two said they liked working on computers, three said it was fun, and one student said he liked it because, "[he could] be more smartly".

Learning to "do more things" on the computer brought a sense of excitement to the lab everyday. When MicroWorlds was introduced by learning how to teach the turtle "the excitement level was extremely high. Everyone liked being the 'brain' of the turtle and experimenting with their power." Josh, overwhelmed with the prospect of scanning, proclaimed for a whole session, "That's just so cool!"

On the "With Single Media" survey, two students said they asked peers for help in spelling and on the "With Multimedia" survey, four students said they asked peers for help in spelling and procedures. In contrast to the surveyed answers, I observed a tremendous amount of student collaboration. During in-class writing students worked independently, but in lab they continuously relied on each other's knowledge. In my journal I noted, "A lot of students are helping each other with the animation since the procedures have to be so precise. It helps me to have them answer each others questions."

MicroWorlds is so multifaceted that many students learned procedures through exploration. One day Malcolm told me that Sydney was going to help him since I did not how to do what he wanted. At times this collaboration became a management issue as I stated in one observation, "It's great to see the kids helping each other but it is hard to have them getting out of their seats. Their dying to share their work and help each other but it's too chaotic to have them walking around!"

Students wanted to spend more time on their autobiographies in MicroWorlds than they did on paper. Eight students used the daily thirty minutes given for writing and two used more. However, all students answered on the "With Multimedia" survey that they would have liked more time to work on their project. This range of extra time spanned from wanting thirty more minutes to eighteen more years. In my journal, I observed, "One of my biggest complaints is when I ask students to save and close their projects. Almost every day I have heard, 'but I'm in the middle of something' or 'Can't I have just a few more minutes!' It's hard for some of them to find a good stopping point. Someone always has 'just one more thing'"

On both surveys all students said that they were proud of their work and the majority credited this pride to the fact that they worked hard. There was great anticipation for the day

students shared their projects with the class. Twelve students volunteered to present their autobiographies in an "Author's Chair" activity.

In summary, all eighteen students enhanced the development of their ideas through the multimedia tools: graphics, animation, and/or sound. Many students developed new ideas using these tools. Students relied on the instructor for mechanical instructions rather than thoughtful ideas. Students showed high levels of motivation for their multimedia projects. More active peer collaboration occurred in the lab than in the classroom. Students not only utilized all of their computer lab time but said they would have liked additional time as well. And finally, all students were proud of their work in single and multimedia for similar reasons, hard work.

Chapter V

Conclusion

Using multimedia tools, Students enhanced their autobiographies in MicroWorlds. Throughout the integration graphics, animation, and sound with text, several themes reoccurred.

Students tended to use graphics more than animation and sound to enhance and develop new ideas. While all students used graphics to enhance ideas, only seven students used animation and eleven students used sound. The disproportionate use of these tools can be attributed to students' previous experience with paint and draw applications and the novelty of using animation and sound tools. The integration of animation and sound in projects require precise procedures. This precision frustrated many students which ultimately deterred some of them from incorporating more animation and sound in their work.

Although the complexity of procedures was a factor, limited time also contributed to the disproportionate use of animation and sound. Because MicroWorlds was new to the majority of students, they allotted a considerable amount of their time to exploring the capabilities of the software. Thus

students had little time to devote to developing new ideas and becoming more proficient in using the many tools of MicroWorlds.

I noted in my journal how much students enjoyed exploring the tools of animation and sound. When MicroWorlds was introduced by learning how to teach the turtle I observed that "the excitement level was extremely high. Everyone liked being the 'brain' of the turtle and experimenting with their power." The motivation described in the review of literature was apparent on such days when students explored animation and sound. Due to these observations and the unanimous desire for additional time for the projects, I think the restricted time that students had to the explore the new avenues of communication prevented them from incorporating more multimedia tools in their work.

Each project revealed the diverse backgrounds, interests and skills of each student. Diversity, obscured in the text, vividly emerged with the multimedia tools. Non-descript words and themes were quickly diffused. Unique voices, family pictures, cars driving through neighborhoods, and skylines of the future replaced non-descript words and themes. The manipulation of graphics allowed Josh to convey family diversity that would have been impossible to express with written words.

Students asked questions regarding "how to do" procedures such as cutting, pasting, cropping, drawing, altering and reconstructing material. Students did not ask me "what to do". Students had engaging ideas, and only needed guidance in implementing them. This type of thinking varied from their single media work in which they said the hardest part was thinking of ideas. In MicroWorlds students participated in the intellectual development that John Sculley (1993) describes as an "active, inquiring dialogue with the world, a personal journey of curiosity and discovery"(p.38).

Peer collaboration increased in the lab despite students' survey responses. My journal details this in the issue of classroom management. "It's great to see the kids helping each other but it is hard to have them getting out of their seats. Their dying to share their work and help each other but it's too chaotic to have them walking around!" Students may perceive peer collaboration as a negative behavior and therefore not wanted to admit to participation.

Difficulties

In terms of determining to what extent students enhance their idea development and facilitate individual expression with multimedia tools, the major obstacles of this study were 1)the novelty of multimedia software and 2) the time

limitations in the computer lab and of the study. Because only three students had previous experience with multimedia software, the majority of time in the computer lab was spent teaching students how to use the multimedia tools in MicroWorlds. With only one instructor, it was difficult to provide the necessary one on one assistance and conduct qualitative observations. Therefore, an additional instructor or observer would have facilitated greater insight.

Time limitations in the computer lab only allowed for students to meet twice a week for thirty minutes each. The procedures used in MicroWorlds to incorporate graphics, animation, and sound demand accuracy which was often difficult for students to retain from class to class. Therefore, a portion of each class period was spent reviewing past learned procedures as well as learning new ones. This necessity greatly reduced the amount of time students had to exercise their creativity. Longer lab time for students would have provided students with more time to explore their capabilities. Also, time limitations of this study only allowed for two months of field work. Multimedia software is so multifaceted that students need extended amounts using its tools in order to become proficient in manipulating them. This necessary time could have been provided in a year long study. Furthermore, due to the multifaceted nature of multimedia

software, an alternative project to student autobiographies, for beginning users of multimedia software, could be projects structured for groups. Group projects may decrease levels of frustration that develop as a result of the multifaceted procedures of multimedia software and become compounded with time limitations.

This study would be improved by an additional instructor/observer, prolonged computer lab time for students, an extended length of study time, and cooperative group projects. With these changes to this study, students may have utilized more multimedia tools to express themselves in the publication of their writing.

Successes

Despite many difficulties, as an educator and implementor of this study, I believe there were many successes. Students increased their individual expression in their work with graphics, animation, and/or animation. All students utilized at least one of these tools which at the very least enhanced the original text with illustration. Also, I consider the revision of original text in this final stage of publishing a success due to tendency of this particular class to only write one draft when writing. Another success of this study was the frequent occurrence of "on-task" peer support in

the publishing process. The peer support in this class was unique because of the lack of peer support they provide each other when writing with paper and pencil. Finally, this study was successful in that it provided students with limited computer experience with experience in communicating through a multimedia software.

Conclusion

The various tools of communication provided with multimedia software enabled students in this study to increase description, display unique perspectives, and reveal diverse backgrounds, interests, and skills that were difficult to convey in a single media format. Furthermore, in the implementation of these strategies of communication, students participated in peer collaboration, varied cognitive thinking strategies, and worked in an atmosphere of high motivation. This enhancement of idea development and individual expression resulted from utilizing the communication tools of multimedia software. These are significant reasons for teachers to use multimedia software as a tool for student communication in the learning process.

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Appendix A

With Single Media

I am doing a study for one of my classes at UVA and need your help!!! Will you please answer the following questions about writing your autobiographies?

What did you find to be the hardest thing about this assignment?

When writing your autobiography, how many drafts did you write?

How much time did you spend writing?

What did you consider most important when writing? Circle one

a. neatness
b. expressing your thoughts clearly
c. finishing

Did you ask your classmates for help? What kind of help?

Are you proud of your work? Why or Why not?

Appendix B

With Multimedia

I need your help again!!!!! Will you please answer the following questions and return them to me. Everyone has done a GREAT job on their MicroWorlds project and should be very proud of themselves!! I have loved working with all of you. You are a super class.

How did you change your autobiography on the computer?

How did you like this writing assignment using the computer?

a. I liked it very much.

b. I did not strongly like it or dislike it.

c. I did not like it.

Why?

Did you ask your classmates for help? What kind of help?

Would you have liked more time to work on your project? How much?

Are you proud of your work? Why?

Appendix C

Possible Unit Outline for Integrating MicroWorlds into the Curriculum

I. Day One: "Teaching the Turtle"

A. Students learned how to manipulate the turtle by using its vocabulary and giving it commands.

B. Students instruct the turtle to draw graphics, change its shape and use it as a stamp to paint icons.

II. Day Two: "Text and Paint"

A. Students learn how to create and manipulate text boxes by changing their sizes and moving them around.

B. Students explore the paint capabilities of MicroWorlds.

III. Day Three: "Creating the Title Page"

A. Show students an example of an autobiography project on MicroWorlds.

B. Students begin their projects by creating a title page for their projects.

- included title, author, and two turtle icons that would serve as the buttons between pages, and directions for a user to explore their project.

IV.Day Four: "ClarisWorks/MicroWorlds: Cut & Paste"

A. Students create and name pages according to the four stages of their autobiographies.

B. By opening up their autobiographies in ClarisWorks, students cut portions of the text and

paste them into the appropriate pages in MicroWorlds.

V. Day Five/Six: "Entering the World of Animation"

A. Students explore the tool of animation by using MicroWorlds' Ideas and trial and error.

B. Trial and error helps students realize the importance of choosing a "setheading" so that the turtle will animate in the desired direction.

VII. Day Seven:"Incorporating/Manipulating Scanned and Digitalized Images"

A. Students cut their scanned or QuickTake pictures that are in ClarisWorks documents and paste them into their projects.

B. If there is limited time, student pictures can be scanned into ClarisWorks documents for them.

QuickTake picture can be taken and included in ClarisWorks documents.

VIII. Day Eight: "Project Time"

A. Students use this class as time to work on the aspects of their projects that they want.

IX. Day Nine: "Adding Sound"

A. Students record sound and melody and incorporate them into their projects.

X. Day Ten: "Finishing Touches"

A. Students use this class to add any additional touches and revisions before they share their projects.

XI. Day Eleven: "Sharing Our Projects"

A. Students have the opportunity to share their projects in an "Author's Chair" structure.

B. Students have the opportunity to explore each other's projects.